

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : **Jens David et al.** **Examiner:** **Than N. Du**
Serial No. : **10/525,688** **Group Art Unit:** **2116**
Filing Date : **February 22, 2005**
Title : **METHOD FOR INITIALIZING
PROGRAMMABLE SYSTEMS**
Customer No.: **21003**

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants request review of the rejections of claims 1-10 that have been maintained in the Final Office Action dated May 16, 2007. A Notice Of Appeal is being concurrently filed. In the Office Action, claims 1, and 4-10 have been rejected under 35 U.S.C. § 103(a) as being obvious from applicant's admission of prior art ("AAPA") and Branstad U.S. patent No. 6,519,716 ("Branstad"). Claims 2 and 3 have been similarly rejected as being obvious from AAPA and Branstad in view of Klein U.S. patent publication No. 2001/0052067. The Examiner has noted and objected to informalities in the claims.

Applicants' Reply

With respect to the claim objections, applicants will amend the claims in the next response to address the informalities that were kindly noted by the Examiner.

With respect to the prior art rejections, applicants respectfully submit that the Office Action misreads and misapplies both AAPA (the background section of applicants'

specification) and Branstad to applicants' claims. The Office Action's reading of Branstad is incorrect and unreasonable in view of a person of ordinary skill in art. Further, the Office Action uses impermissible hindsight in its application of AAPA and Branstad. Applicants respectfully submit that the steps and arrangement of steps as recited in the claims are not shown, taught, or suggested by AAPA and Branstad even when they are viewed in combination by ~~of~~^a a person of ordinary skill in art.

Claim 1

Applicants' inventive method, according to claim 1, is directed to the initialization or startup of an ASIC-processor based programmable system in which information required for initializing registers and internal and/or external modules is stored in and read from external memory. The method includes, after turn-on or other event triggering a fresh start of the programmable system, the steps of: (a) transferring initialization information for the [programmable] system from an external or internal non-volatile storage medium to an internal memory coupled to [the at least one] processor element, under the control of a program stored in an instruction memory portion coupled to the processor element, wherein the initialization information includes at least one initialization program and initialization data; and (b) reading and transferring initialization data and further initializing the registers and modules under the control of the at least one initialization program transferred into the internal memory portion coupled to the processor element of the programmable system.

AAPA

AAPA describes a prior art microcontroller-assisted electronic system sold to an OEM customer. (See e.g., specification ¶ [0004]). It is necessary for the OEM customer to a) identify the device, and b) initialize the device by setting the registers with customer specific values or

with built in default values. (See e.g., Specification ¶ [0007], [0014], etc.). As described in AAPA, both values for the device identification and the device initialization values may be stored within an EEPROM. The values of the EEPROM are delivered to the respective registers by a specific built in hardware. The specific hardware requires OEM-specific data and data formats. The identification and the initialization as described in the AAPA is not flexible for a usage of the programmable system by other OEM customers. (See e.g., Specification ¶¶ [0009]-[0013], etc.).

Applicants note that the AAPA does not disclose, show, or suggest at least the following elements of claim 1: (a) an internal memory (e.g., instruction RAM 10) coupled to the processor element storing initialization information for the programmable system; (b) the initialization information, which is stored at first in an external or internal non volatile storage medium (14), consisting of initialization data and initialization program; (c) a program stored in an instruction memory (9), which controls the transfer of the initialization information into the instruction memory; and (d) the initialization program (which was transferred at first into the internal memory) that controls the initialization of the modules and register.

Branstad

Branstad addresses the manner of controlling an operational access time for a non-volatile memory by “Dynamic Memory Testing” to minimize initialization time of an electronic device coupled to a data processing system. (See e.g., Branstad col. 2 lines 32-52, etc.). However, applicants note that Branstad does not describe or teach any method or process for initialization. In fact, Branstad at col. 5, lines 34-35 states that the “the precise program code utilized to implement this functionality [initialization program] is irrelevant.” Branstad merely

tests suitable initialization conditions i.e., suitable access time for communicating with external memories.

In contrast, applicants' claim 1 specifically requires the steps that an initialization program be transferred and stored in the instruction memory portion (e.g., ROM) of the processor element as part of the initialization/startup response. This transferred initialization program then controls the functionality of the processor during system startup including control of the reading of initialization information.

The Office Action, Response to Arguments, §16 cites Branstad col. 1 lines 7-12, which reads: "FIELD OF THE INVENTION The invention is generally related to the initialization of an electronic device such as an adaptor or other electronically controlled component in a data processing system, and in particular, to control over the retrieval of initialization code for execution by such an electronic device during initialization." The Office Action mistakenly concludes that this portion of Branstad "teaches the step of transferring an initialization program, . . . as claimed." In contrast, applicants' claim 1 calls for "a program-controlled" transfer.

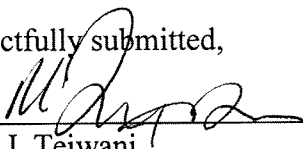
Earlier, Office Action § 10 page 4 cites Branstad col. 5 lines 19-24 as teaching "... transferring initialization program, . . . to perform the initialization, . . ." This also is inapplicable to claim 1 limitation of "a program-controlled" transfer.

Careful reading shows Branstad at most teaches that a generic or prior art initialization code or program, which every processor needs for initialization ("of an electronic device such as an adaptor or other electronically controlled component in a data processing system"), is stored in external nonvolatile storage (EEPROM 58) and retrieved by a (non-programmable) logic block 50. Branstad does not provide any description or details of his initialization program code, which therefore can be no more than prior art initialization program code as understood by a

person of skill in the art. Such a person would understand Branstad's prior art initialization process as follows: Microcontroller 42 has an address wherefrom microcontroller 42 after turning on or other event triggering a fresh start, which directs microcontroller 42 to EEPROM 58. The set of instructions for initialization of the adaptor (or other electronically controlled component of the data system) are read from EEPROM 58 via control bus 60 controlled by logic 50. (Branstad differs from AAPA in that the former stores the "initialization program" and latter describes storing "identification data and initialization data" in the EEPROM. This difference is not described in Branstad). Branstad's bus 60 and EEPROM 58 are configured in an unchangeable fixed format, and are therefore comparable with the fixed wired hardware as described in AAPA.

Branstad does not disclose to a person of ordinary skill in the art that "retrieval of initialization code for execution by such an electronic device" is "program controlled" as required by claim 1. This essential feature of claim 1, enables variability of the bus system and the EEPROM. (See e.g., specification ¶[0037]). This inventive "program-controlled" transfer of claim 1 advantageously allows the programmable system to be customized or adapted specifically for OEM customers with different bus/EEPROM types thereby reducing costs.

For at least the foregoing reasons, claim 1 (and its dependent claims) are not obvious from, and are patentable over, the combination of AAPA and Branstad.

Respectfully submitted,
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